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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,888	08/25/2003	Tadashi Ichida	SIC-03-029	1887
29863	7590	04/28/2005	EXAMINER	
DELAND LAW OFFICE			WHITTINGTON, KENNETH	
P.O. BOX 69			ART UNIT	
KLAMATH RIVER, CA 96050-0069			PAPER NUMBER	
			2862	

DATE MAILED: 04/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/604,888	<b>Applicant(s)</b> ICHIDA ET AL. <span style="float: right;">(SM)</span>	
	<b>Examiner</b> Kenneth J Whittington	<b>Art Unit</b> 2862	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 March 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 and 15-22 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 March 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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**DETAILED ACTION**

The Amendment filed March 11, 2005 has been entered and considered. In view of the Amendment, as outlined below, the objections to the drawings are maintained and new/amended  
5 grounds for rejection are provided with regard to the claims.

***Drawings***

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in  
10 the claims. Therefore, the sensor being mounted to the front fork, back fork, chainstay or hub as recited in claims 21 and 22 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

While Applicant has provided a replacement FIG. 1 to  
15 address this objection, the new FIG. 1 as well as the remaining Figures continually fails to show these features and the objection is maintained.

Corrected drawing sheets in compliance with 37 CFR 1.121(d)  
20 are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended.

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The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

15

### ***Claim Objections***

Claim 22 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 22 attempts to further limit the bicycle part as recited in claim 21, wherein the bicycle part is either a front fork,

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back fork or chainstay. Since a wheel hub is not a further limitation of any of these features, the claim introduces a broader recitation of the bicycle part.

For purposes of examination, this claim will be interpreted  
5 to depend from claim 20.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35  
U.S.C. 112:

10 The specification shall contain a written description of the invention, and  
of the manner and process of making and using it, in such full, clear,  
concise, and exact terms as to enable any person skilled in the art to  
which it pertains, or with which it is most nearly connected, to make and  
15 use the same and shall set forth the best mode contemplated by the inventor  
of carrying out his invention.

Claim 22 is rejected under 35 U.S.C. 112, first paragraph,  
as failing to comply with the enablement requirement. The  
claim(s) contains subject matter which was not described in the  
20 specification in such a way as to enable one skilled in the art  
to which it pertains, or with which it is most nearly connected,  
to make and/or use the invention. The Applicant has not  
provided in either the specification or drawings how the  
magnetic sensor is mounted onto a wheel hub in any manner  
25 sufficient to allow a person having ordinary skill in the art to  
carry out the invention as recited in this claim.

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***Claim Rejections - 35 USC § 103***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5        Claims 1-10 and 16-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda (US 6,162,140) in view of Uyeda et al. (US 4,521,731). Regarding claims 1, 2, 10, 20 and 21, Fukuda teaches a speed sensor assembly comprising:

10        a casing member comprising a generally annular body structured to be mounted to the bicycle hub so that the annular body is incapable of rotating relative to the hub as the hub rotates in opposite directions around a rotational axis (See Fukuda FIGS. 7 and 8, item 300), wherein the annular body includes a plurality of circumferentially disposed exposed  
15        magnet mounting portions that are concentric with respect to the rotational axis and containing a plurality of magnets (See FIGS. 7 and 8, magnets 304 and recesses therefor), and

20        a sensor unit mounted to the chainstay and/or back fork of the bicycle (See FIGS. 7 and 8, item 308).

20        However, Fukuda does not explicitly teach a cover member. Uyeda et al. teaches a cover member detachably latched to the annular body for blocking the plurality of magnet mounting portions (See Uyeda et al. FIGS. 2 and 6, item 1a mounted onto

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1b). It would have been obvious at the time the invention was made to incorporate the cover assembly as taught by Uyeda et al. in the sensor assembly of Fukuda. One having ordinary skill in the art would have been motivated to do so to protect the  
5 magnets from the environment. One would also be motivated to do so to prevent the magnets from being dislodged from the annular member (See Caillaut et al., US 5,530,344, at col. 4, lines 25-31).

Regarding claim 3, Uyeda et al. teaches the cover rotating  
10 with the annular member (See Uyeda et al. FIGS. 5 and 7, note that screw prevents relative rotation).

Regarding claims 4 and 5, while Fukuda does not teach of the material from which the casing is made, Uyeda et al. teaches of using a non-magnetic synthetic resin for an annular member  
15 and cover (See Uyeda et al. col. 1, lines 55-58). It would have been obvious to use such materials in the combination noted above. One having ordinary skill in the art would have been motivated to do so to prevent the casing from interfering with the magnetic readings of the sensor and to provide an assembly  
20 easy constructed via a molding process (See Uyeda et al. same portion).

Regarding claim 6, Uyeda et al. teaches the cover completely covering the magnets (See Uyeda et al. FIG. 6).



Regarding claims 7-9, Fukuda teaches the annular body securely bolted to the hub so that relative movement is prevented (See FIGS. 7 and 8, note teeth and grooves in hub portion 340 cooperating with the annular body preventing  
5 relative rotation and stopper 370 bolting thereto).

Regarding claims 16-19, Fukuda teaches a stopper member fixing the annular body to the hub, wherein the stopper member has a tubular portion fitting radially inwardly of the annular body and a flange portion that axially maintains the annular  
10 body and latching portions (threads) structured to fit within stopper grooves (threads) in the hub (See Fukuda FIGS. 7 and 8, note stopper 370).

Regarding claim 22, while Fukuda does not explicitly teach mounting the sensor directly on the hub, Uyeda et al.  
15 specifically teach such features (See Uyeda et al. FIG. 2, sensor 5). It would have been obvious at the time the invention was made to mount the sensor to the hub. One having ordinary skill in the art would have been motivated to do so because such mounting locations are illustrated alternative methods for  
20 arranging the sensor near the annular body for measurements. Furthermore, the mounting arrangement of Uyeda et al. allows the sensor to interchangeably be fitted to various wheels (See Uyeda et al. col. 2, lines 52-65).



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Claims 1, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davidson et al. (US 4,122,907) in view of Uyeda et al. Regarding these claims, Davidson et al. teaches  
5 a cadence sensor for a bicycle (See Davidson et al. col. 1, lines 4-51) comprising:

a casing member comprising a generally annular body structured to be mounted to the bicycle hub so that the annular body is incapable of rotating relative to the hub as the hub  
10 rotates in opposite directions around a rotational axis (See Davidson et al. FIG. 4, comprising items 23 and 24), wherein the annular body includes a plurality of circumferentially disposed exposed magnet mounting portions that are concentric with respect to the rotational axis and containing a plurality of  
15 magnets (See FIGS. 3 and 4, magnets 25 and recesses therefor), wherein the casing member is securely mounted to a crank axle mounting boss of the crank arm (See FIG. 4, note mounting between 23/24 and crank arm 22 and see col. 2, lines 22-26).

However, Davidson et al. does not explicitly teach a cover  
20 member. Uyeda et al. teaches a cover member detachably latched to the annular body for blocking the plurality of magnet mounting portions (See Uyeda et al. FIGS. 2 and 6, item 1a mounted onto 1b). It would have been obvious at the time the

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invention was made to incorporate the cover assembly as taught by Uyeda et al. in the sensor assembly of Davidson et al. One having ordinary skill in the art would have been motivated to do so to protect the magnets from the environment. One would also  
5 be motivated to do so to prevent the magnets from being dislodged from the annular member (See Caillaut et al., US 5,530,344, at col. 4, lines 25-31).

Claim 13 is rejected under 35 U.S.C. 103(a) as being  
10 unpatentable over Davidson et al. in view of Uyeda et al. as applied to claims 1, 11 and 12 above, and further in view of Tani (US 5,480,359). The noted combination teaches the features of these claims, except for the casing being bolted to the crank arm. Tani teaches of bolting chain wheels and the like to crank  
15 arm assemblies (See Tani FIG. 2, note mounting mechanisms). It would have been obvious at the time the invention was made to incorporate the mounting mechanisms of Tani in the noted combination. One having ordinary skill in the art would have been motivated to do so to connect a variety of chain wheel  
20 sized and types to a crank arm (See Tani col. 1, line 35 to col. 2, line 51).

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***Allowable Subject Matter***

After further review of the claims and the prior art, the indication of allowable subject matter and those reasons stated therefor in the Office Action of December 12, 2004 have been  
5 withdrawn.

Claim 14, however, is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The reasons for indicating  
10 allowable subject matter is that while the prior art shows the general features of claim 14, the prior art does not show the annular body having a tube portion and ring portion as recited in the claim, in combination with the other features.

15 ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Romano (US 5,246,402) teaches mounting arrangements for chain rings onto crank arms.

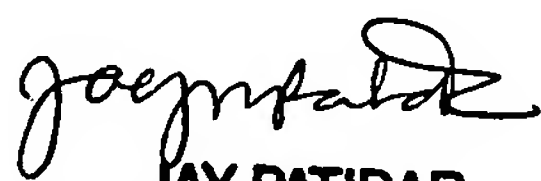
20 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth J Whittington whose telephone number is (571) 272-2264. The

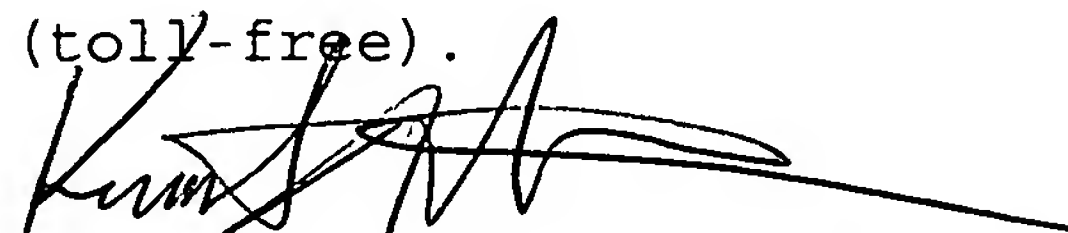
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examiner can normally be reached on Monday-Friday, 7:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
JAY PATIDAR  
PRIMARY EXAMINER

  
Kenneth J. Whittington  
Examiner  
Art Unit 2862

kjw